

an atomic ratio. *See, Example 1-ESCA at page 12-14 and especially page 13, line 23 - page 14, line 2.* In view of the knowledge of one of skill in the art and the teachings of the specification, Applicants submit that the oxygen/carbon ratio of the claims would be well understood by one of skill in the art to be an atomic ratio and undue experimentation would not be required to make and use the invention. Thus, Applicants respectfully request that this rejection be withdrawn.

Claims 1, 2 and 6-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Langdon, U.S. Patent No. 5,368,910 in view of Gyskiewicz et al., U.S. Patent No. 5,913,851. Applicants respectfully traverse this rejection.¹

Claim 1 is directed to a liquid-permeable cover sheet for an absorbent article which cover sheet comprises at least a first material layer, wherein a surface of the first material layer essentially consists of polyethylene which has been treated with plasma or corona to obtain a hydrophilic surface. The surface of the first material layer further has an oxygen/carbon ratio which is higher than 0.19. Independent claim 8 is directed to an absorbent article comprising an absorbent body enclosed between a liquid-impermeable cover sheet and a liquid-permeable cover sheet. The liquid-permeable cover sheet comprises at least a first material layer wherein a surface of the first material layer essentially consists of polyethylene which has been treated with plasma or corona in order to obtain liquid permeability. The surface of the first material layer further has an oxygen/carbon ratio which is higher than 0.19.

Langdon discloses a three-dimensional fluid pervious web suitable for use as a top sheet in an absorbent article. The web includes a first layer of polymeric material and a second layer of fibrous material secured to the first layer of polymeric material. The fibrous material preferably comprises synthetic fibers, such as nylon,

¹Applicants note that while claims 3 and 4 are not specifically mentioned in the rejection, these claims are addressed in paragraph 7 of the Office Action in the discussion thereof. Thus, these claims are considered with claims 1, 2 and 6-10.

polyethylene, polypropylene, polyester, biocomponent binder fibers or natural fibers such as cellulosic fibers. To increase the hydrophilicity of the fibrous surface, the fibers may be treated with a surfactant or the surface may be subjected to ionizing radiation, for example, plasma. However, Langdon does not disclose plasma- or corona-treated surfaces essentially consisting of polyethylene and having an oxygen/carbon ratio which is higher than 0.19.

Gryskiewicz relates to a method of making an absorbent article including liquid containment beams. Gryskiewicz describes as part of its absorbent article a support layer which may comprise a woven knit or nonwoven web. Suitable nonwoven webs include spunbonded, meltblown or bonded-carded webs composed of synthetic polymer filaments or fibers, such as polypropylene, polyethylene, polyesters or the like, among others. The support layer may be treated with a surfactant to aid in liquid transfer to the absorbent structures and may include polyethylene sheath and polyester core bicomponent staple fibers. Gryskiewicz only mentions corona treatment in describing a preferred material for the moisture barrier material which is liquid impermeable. *Column 9, lines 1-13*. This patent does not mention any particular oxygen/carbon ratios.

According to the Office Action, it is the examiner's position that "the oxygen/carbon ratio is inherent in the material itself, and due to the fact that Langdon and Gryskiewicz disclose a nonwoven web made of fibers that are polyester and completely coated with polyethylene, and is treated with a plasma charge, then it is inherent that the material has an oxygen/carbon ratio that is greater than 0.19". Applicants disagree for a number of reasons.

First, in order to obtain the cover sheet as claimed, one of skill in the art would have to know which portions of Langdon and Gryskiewicz to combine. However, neither of Langdon or Gryskiewicz suggests the selection of polyethylene over the other possible materials listed therein. (See *Langdon, column 2, lines 48-*

52, *Gryskiewicz*, column 9, lines 1-6). Additionally, neither Landon nor Gryskiewicz discloses the specific selection of plasma or corona treatment, referring also to treatments with surfactants. Finally, neither Langdon nor Gryskiewicz discloses a material according to the claimed invention wherein a surface of a material essentially consisting of polyethylene has an oxygen/carbon ration which is higher than 0.19.

There is no suggestion or teaching in either Langdon or Gryskiewicz to modify the teachings therein to obtain a liquid permeable cover sheet as claimed. The examiner argues that the oxygen/carbon ratio would be inherent; however, the fact that a certain result or characteristic may occur or be present in the art is not sufficient to establish the inherency of that result or characteristic. *MPEP* § 2112; *In re Rijckaert*, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). The oxygen/carbon ratio of the claims would only potentially be present if one of skill in the art knew which materials to use and how to treat them. Such teachings are not present or suggested by the cited art. Rather, one of skill in the art would have to read the present specification to be able to pick and choose among the teachings of Langdon and Gryskiewicz to obtain the claimed material with the claimed characteristics. Such picking and choosing constitutes impermissible hindsight reconstruction. One cannot use hindsight reconstruction to pick and choose among disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988).

Additionally, obviousness cannot be predicated on what is not known at the time an invention is made, even if the inherency of a certain feature is later established. *MPEP* § 2141.02; *In re Rijckaert*, 28 USPQ2d at 1957. In *Rijckaert*, the Board had asserted that certain relationships were inherent in the art and had assumed specific values for the claimed variables in order to assert that the art satisfied the relationship claimed. The Court of Appeals for the Federal Circuit rejected this view, stating:

The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient to establish inherency. . .
That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown. . .
Such a retrospective view of inherency is not a substitute for some teaching or suggestion supporting an obviousness rejection. . .

In re Rijckaert, 28 UPSQ2d at 1957. Neither Langdon nor Gryskiewicz teaches the claimed material treated as claimed with the claimed oxygen/carbon ratio. In fact, no mention of such a ratio is present at all. Even if some combination of the teachings of the cited patents would provide the claimed oxygen/carbon ratio, such would not have made the claimed invention obvious to one skilled in the art since the teachings of Langdon and/or Gryskiewicz would not have led one of ordinary skill to make a cover sheet or absorbent article as claimed in claims 1 and 8.

The problem solved by the claimed invention is to be able to obtain a liquid-permeable cover sheet having a higher hydrophilicity of wettability. The present invention provides a cover sheet having good liquid permeability even after repeated wetting of the article. *Page 3, lines 32-35*. As regards corona-treated and plasma-treated materials, it has been found by Applicants that different materials show significant differences in the acquired ability to retain the liquid permeability upon repeated wetting. *Specification, page 4, lines 7-11*. In other words, it has been found that the liquid permeability upon repeated wetting is substantially better for materials with a surface of polyethylene than for materials with a surface of polypropylene. *Specification, page 4, lines 11-16*. Accordingly, the properties of polyethylene in connection with plasma or corona treatment are clearly distinguished from corona-treated films of polypropylene or other materials.

The cited patents do not recognize the properties of polyethylene in connection with plasma or corona treatment, since in those patents polyethylene is described together with, e.g., polypropylene. This means that polyethylene and,

e.g., polypropylene are described as having equal properties, and that the properties recognized by Applicants clearly have not been previously recognized. Thus, the fact is that the cited patents are silent about the properties of polyethylene and Langdon and Gryskiewicz do not reveal anything or give any hint about the advantages of the claimed invention.

Moreover, as neither of the cited references reveal anything about, or even lead towards, the solution to the problem, the skilled person knowledgeable of all of the cited documents would see no way to find the solution with any combination thereof. In view of the lack of any suggestion or motivation provided in the cited art to make the claimed invention, Applicants respectfully request that this rejection be withdrawn.

Claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Langdon in view of Gryskiewicz. Applicants respectfully traverse this rejection. As noted above, neither of the cited patents disclose the claimed invention of claim 8, from which claim 11 depends. Therefore, neither cited patent, alone or in combination, would have served to make the invention of claim 11 obvious. In view thereof, Applicants respectfully request that this rejection be withdrawn.

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Langdon and Gryskiewicz in view of Thomas, U.S. Patent No. 4,351,784. Applicants respectfully traverse this rejection.

Thomas discloses a corona-treatment of a perforated thermoplastic film having tapered capillaries, wherein particularly preferred perforated films are polyethylene and polypropylene. In Thomas, corona-treated films of polyethylene and polypropylene are either described together or as having equal properties. In fact, Thomas states that "Any thermoplastic material which may be formed into flexible film or sheets may be used in the production of the novel products of the

present invention." *Column 3, lines 48-50.*

Thomas does not disclose plasma or corona-treated surfaces essentially consisting of polyethylene and having an oxygen/carbon ratio which is higher than 0.19. In view of the foregoing, Thomas does not remedy the deficiencies of Langdon and Gyskiewicz such that the invention of claim 5, which is dependent on claim 1, would have been obvious to one of skill in the art from a combination of Langdon, Gyskiewicz and Thomas. In view thereof, Applicants respectfully request that this rejection be withdrawn.

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may be adequately addressed.

Respectfully submitted,

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